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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/700,129

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Christopher S. Tanner

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EXAMINER

TRAN, LY T

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/700,129

Applicant(s)

TANNER ET AL.

Examiner

Ly T. TRAN

Art Unit

2853

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-14 and 16-43 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 6-13, 16-25, 27, 33-37, 39-42, 14, 5, 15, 26, 28-32, 38 and 43 is rejected under 35 U.S.C. 103(a) as being obvious over Takei (JP 403039255) in view of Webster et al (US 20020180828)

With respect to claims 1, 7, 17, 22, 33-35 and 39, Takei discloses an apparatus and a method for servicing a print bar comprising:

- Rotating a drum Fig.4: element 12), the drum having an aperture/through hole (element 18) defined in a drum surface
- Spitting fluid from the print head into the aperture/through hole
- Rotating drum having a drum cylindrical wall including a print medium supporting surface portion (fig.4)
- A print head (element 14) disposed adjacent the supporting surface for ejecting fluid droplets
- Ejecting fluid drops onto the print medium (fig.6: element 10)

- A spittoon aperture (element 18) formed through the cylindrical wall at a drum service portion separated from the print medium supporting surface portion, the aperture having a longitudinal extent at least as long as a longitudinal extend of the print head
- A duct (element 22, 24) in the drum cylindrical wall having a spittoon end opening to the spittoon aperture and a second end communicating with a source of vacuum

With respect to claims 2 and 23, Takei discloses an apparatus and a method of drawing the fluid spit from the print head through the aperture/hole into a collection structure (fig.4)

With respect to claims 3 and 24, Takei discloses that drawing the fluid through a duct channel having a channel opening at the aperture and into the collection structure (fig.4)

With respect to claims 4, 40, 41 and 20, Takei discloses creating a vacuum between the slot and a fluid collection structure to draw the fluid spit from the print head into the aperture into the fluid collection structure (fig.4)

With respect to claim 6, Takei discloses the print head is mounted in a stationary position

With respect to claims 8, 25, 42 and 19, Takei discloses a print bar comprising a page wide array of print heads (fig.6)

With respect to claim 9, Takei discloses the print head comprises an array of fluid ejecting nozzles (fig.6)

With respect to claim 10, Takei discloses the array of fluid ejecting nozzles is positioned adjacent to the surface of the drum to provided high print quality of the printed output (fig.4, fig.6)

With respect to claim 11, Takei discloses a vacuum system coupled to the drum to draw fluid drops through the spittoon aperture into the drum and to a collection structure (fig.4: element P)

With respect to claim 12, Takei discloses the vacuum system includes a hollow drum axle (fig.4: element 16) disposed within the drum cylindrical wall and a duct fixed between the drum axle and the drum cylinder, the duct (22, 32) communicating with the spittoon aperture and wherein the drum axle has one opening formed therein in communication with the duct

With respect to claim 13, Takei discloses the vacuum system further includes a vacuum source coupled to the hollow drum axle through a vacuum conduit (fig.4)

With respect to claims 16 and 21, Takei discloses mounting the print head/fluid ejecting means in a fixed position relative to the drum cylindrical wall (fig.4, fig.6)

With respect to claim 18, Takei discloses the spittoon slot is parallel to the drum axis (fig.4, 5: element 18)

Takei fails to teach a filter coupled to the vacuum conduit.

Webster teaches the filter (Fig.1: element 68).

It would have been obvious to one having ordinary skill in the art the time the invention was made to have the filter as taught by Webster. The motivation of doing so

Art Unit: 2853

is to prevent an ink aerosol, which enters the line from being exhausted from the line to the vacuum source or into the printer environment.

With respect to claims 28-32, 5, 26, 38 and 43, Takei discloses an apparatus and a method for operating a drum printer comprising:

- Rotating a drum, the drum having an aperture formed therein (fig.4: element 12, 18)
- Conducting a printing operation by ejecting fluid drops from a print head onto the print medium as the print medium passes through a print zone (fig.4, 6: element 10)
- As the aperture passes through the print zone, conducting a print head service operation by spitting fluid from the print head through the aperture
- Drawing fluid drops spit from the print head through the aperture into a collection structure (fig.4)
- Creating a vacuum between the slot and the collection structure to draw the fluid spit from the print head into the aperture into the collection structure (fig.4: element P)
- Ejecting fluid drops from a page wide array of print head each comprising an array of fluid ejecting nozzles (fig.6)
- Print head is held in fixed position relative to the drum while the drum is rotating (fig.4, 6)

While Takei does not specifically teach that the drum is rotating at a constant rate, it is necessary that the drum must rotate at a constant rate in order to have spit

Art Unit: 2853

the fluid at the specific position. It would have been obvious to rotate the drum as a constant speed in order to spit the fluid at the specific position and easier to operate.

***Allowable Subject Matter***

2. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 15 is allowable over prior art of record because at least prior art has not been found to anticipate or teach the drum is supported for rotation on a bearing structure, and the vacuum system includes a vacuum conduit connected to the drum by a conduit bearing support permitting the drum to rotate and the vacuum conduit to remain in a fixed position.

***Response to Arguments***

3. Applicant's arguments filed 3/20/06 have been fully considered but they are not persuasive.

Applicant argues that Webster is disqualified as a reference under 35 USC 103. This argument is not deemed to be persuasive because Webster is qualified as a reference under 102a, therefore the rule 102 (e) is not applied.

**Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T. TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT

May 17, 2006



**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**